

August 28, 2013

The Center for Public Integrity
910 17th Street, NW, Suite 700
Washington, DC 20006
202-466-1300

Dear Chris Hamby,

Thank you for your recent request to review the medical imaging of Mr. Michael S. Day, and to provide an opinion about his most likely diagnosis.

It is my understanding that Mr. Day worked in the coal mining industry for some 33 years. I also understand the interpretation of the findings on his medical imaging is being disputed. I received several of his chest imaging studies from the Charleston Area Medical Center listed below. You have asked me to provide ILO classification forms for the chest x-rays and to report my findings on his chest CT scans. I am also aware you are interested in my assessment of any differential diagnoses that would be important to consider from the imaging, as well as the relative likelihood of his actual disease process. You provided a permission letter for me from Mr. Michael S. Day, to review his images and share my findings with you.

Let me briefly introduce my experience and training that qualifies me to provide such a review. I am John E. Parker, M.D. For over a decade I have been the Chief of Pulmonary and Critical Care Medicine at West Virginia University School of Medicine. I have a long interest and expertise in occupational lung diseases. Prior to my assuming my current clinical and academic position, I served 22 years in the U.S. Public Health Service, the majority at the Centers for Disease Control (CDC) with NIOSH. I am a NIOSH Certified B Reader.

I directed the Examination Processing Branch at NIOSH which included the oversight of the NIOSH Coal Workers X-ray Surveillance Program and the NIOSH B Reader Certification Program. I have served as faculty for the American College of Radiology (ACR) Seminar on the Pneumoconioses for

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over fifteen years. This is the ACR-NIOSH seminar where national and international physicians are trained in the use of the ILO classification system and many take the NIOSH B reader examination.

I have consulted for both the World Health Organization and the International Labor Office (ILO) on many issues related to occupational and infectious lung diseases, including developing and teaching the ILO Classification System at over fifty international symposiums around the globe. I have assisted the ILO in the 2000 and 2011 revision of the ILO system and on issues of quality assurance, training and the adoption of digital radiology, and the role of high resolution computed tomography. I have authored numerous scientific publications, including clinical research studies on coal, silica, and asbestos related diseases.

I have a passionate commitment to the recognition, prevention, and treatment of occupational lung diseases. The important role for imaging in dust related diseases has been of particular interest. I have served as an expert witness for the U.S. government in the past. This has included testimony before the U.S. Senate Judiciary Committee and in a U.S. District Court in Texas; the often called or so named "Judge Jack Case."

As you requested I have reviewed Mr. Michael S. Day's chest radiographs from 09.02.2003; 01.06.2004; 01.06.2004; 05.23.2005; 6.01.2005; 01.08.2007; 02.20.2009; and his chest CT scans from 10.06.2009; and 10.01.2012.

I have appended ILO classifications from several of the chest radiographs for Mr. Day.

His radiographic images are quite tragically, classic or typical of advanced and progressing dust related lung disease, seen in underground coal miners, exposed to coalmine dust often containing silica. **It is my opinion that Mr. Day has pneumoconiosis and typical findings of progressive massive fibrosis.**

Before I describe in more detail the findings in his case let me make the following point:

The pneumoconiosis -- silicosis, asbestosis, and coal workers' pneumoconiosis are diseases related to the cumulative respiratory exposures to the respective dusts, and the lung tissue reaction to the dust. The diagnosis is made during life, typically without a lung biopsy, based primarily upon a

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history of exposure and latency, a compatible chest radiographic abnormality, and no better medical explanation for the findings than the dust exposure. These concepts are well described in medical textbooks and other medical literature.

Stated in another way, physicians need to recognize the limitations of chest radiographic imaging and ILO classifications, and neither "make" the diagnosis nor "eliminate" the possibility of clinical diagnosis of pneumoconiosis, based on chest imaging alone. Clinical medical and workplace dust exposure histories, radiographic findings, physical examination findings, as well as, radiographic progression or stability over time are all important to observe.

Mr. Day's case fulfills the criteria of a history of important exposure, highly compatible imaging findings, and no better competing medical explanation for the findings.

Some of the findings on Mr. Day's abnormal chest radiograph that make pneumoconiosis the most likely consideration, include a lung injury that is relatively symmetrical on both the right and left lungs, with an apical to basilar gradient; that is the injury or changes are more prominent in the upper lungs zones than the lower lung zones. In addition to the large opacities or progressive massive fibrosis lesions, there are also smaller opacities of typical of pneumoconiosis. The images show steady radiographic worsening or progression of the large opacities, and some decrease in the number of small opacities. This is also, quite typical of progressive massive fibrosis lesions.

Mr. Day's chest CT imaging provide, in essence, the confirmation of the findings seen on the plain chest radiographic imaging, the large masses are seen to excellent advantage, as are the small opacities. There are a few areas of calcification typical of silicosis or pneumoconiosis which are even better appreciated on the CT images, than the chest radiographs. The lesion on the right in the 2012 imaging also demonstrates some probable "liquefaction necrosis" that can lead to the symptom of melanoptysis.

In addition to my personal review of Mr. Day's images, I have shown his chest studies at our weekly pulmonary conference and to trusted radiology colleagues at the West Virginia University hospital and the only serious consideration for the disease process by both the clinicians and the radiologists has been pneumoconiosis.

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It is important to understand that indeed the abnormal findings on any single radiographic image such as Mr. Day's, creates a differential diagnosis of potential explanations of the abnormalities; and the medical explanation for the abnormal shadows may range from dust related lung injury, infectious lung diseases, neoplastic, and inflammatory or granulomatous lung diseases.

However, in a worker, such as Mr. Day, with a strong history of dust exposure, the differential diagnostic considerations narrow substantially, and the findings are virtually always explained by pneumoconiosis.

In addition, with a series of images such as in Mr. Day's case, accumulated over several years, pneumoconiosis remains the only serious consideration to explain the abnormal findings. The likelihood of the other considerations, such as infection or cancer, falls to essentially zero.

For example, chronic infections such as tuberculosis, histoplasmosis, atypical mycobacterial disease, and cancer do not have the radiographic appearance or time course such as seen in this case. The natural history of these other diseases is so distinct and different from pneumoconiosis, that they do not remain viable clinical alternative explanations.

So in summary, Mr. Day's history and findings are so characteristic that I am confident that Mr. Day has lung disease related to his coal mining. I am so confident, that I am indeed certain a biopsy or an autopsy, if performed, would confirm my diagnosis.

Based on my findings in reviewing this case, and the classic nature of the medical imaging and history, I am deeply saddened and concerned to hear that any serious dispute is occurring regarding the interpretation of his classically abnormal medical imaging.

If other physicians are reaching different conclusions about this case, that Mr. Day's findings are not dust exposure related; it gives me serious pause and concern about bias and the lack of scientific independence or credibility of these observers.

I know contested proceedings are just that, contested, however this case is so classic, that I am certain any objective observer or panel of observers would reach the conclusion that I have, Mr. Day has advanced dust related disease.

Rather than rely exclusively on my thoughts on this matter, I would refer you to the NIOSH web site that provides guidance to B readers about the

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proper methodology for reviewing and classifying chest images, including ethics for contested readings.

The NIOSH website contains some of the following succinct and forceful language, and I primarily quote NIOSH in the following:

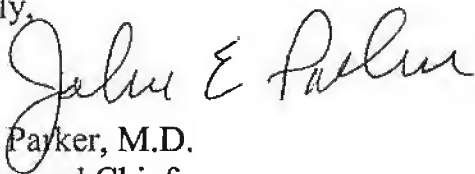
“NIOSH has prepared **ethical guidelines** that should be considered when readers classify radiographs in contested settings. Also, the American Medical Association (AMA) and the American College of Radiology (ACR) have published guidelines for physicians serving as expert witnesses. All of these professional bodies and these guidelines discuss the need for physicians to be impartial, objective, and unbiased. Testimony must be scientifically valid and be able to withstand peer review.

The NIOSH B Reader Code of Ethics also reminds us that B Readers must maintain a high level of ethical conduct, as **the outcome of chest radiograph classification can have important medical, legal, and social implications.**

It is critical that B Readers perform chest radiograph classifications properly and with integrity.”

I would ask you to provide this letter or report to Mr. Michael S. Day as it may be pertinent to both his health and future health care.

Sincerely,

A handwritten signature in cursive script, appearing to read "John E. Parker".

John E. Parker, M.D.

Professor and Chief

Pulmonary and Critical Care Medicine

West Virginia University

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